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09/814,552	03/22/2001	Henry H. Wheeler JR.	7014-101	4477

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EXAMINER

SERGEANT, RABON A

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 06/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/814,552

Applicant(s)

Wheeler, Jr. et al.

Examiner

Rabon Sergent

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

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1. Claims 1-12, 14, and 23-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the word, "predetermined", is to further limit the claims.

2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how "substantially dry" differs from "dry". What quantity of moisture may be present and still satisfy the requirement? Also, it is unclear if "dry" is to refer solely to water or to any liquid material.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language, "prewetting the fibrous material to (i) about 10% by volume of the polyol component, ...", is not understood. The "prewetting" language is understood, but it is unclear how to interpret the numerical limitations.

4. Claims 5, 6, 16, 17, 19, 20, 27, 28, 35, 36, 39, 40, 43, and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The word, "high", is subjective language. It is unclear what molecular weight is encompassed by the language.

5. Claims 6, 17, 20, 28, 36, 40, and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6, 17, 20, 28, 36, 40, and 44 contain the trademark/trade name KEVLAR. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe an aramid fiber and, accordingly, the identification/description is indefinite.

6. Claims 11 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not understood what process limitation is being set forth by the "applying pressure" language. Are applicants referring to molding or conducting the reaction under gaseous pressure

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or applying force to a foam structure so as to break the cell windows to obtain an open celled foam?

7. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if the reference to "polymeric material"(both occurrences) is to refer to the reactants used to make the polymer or if the solutions actually contain polymer. If the latter is the case, then it is unclear how the first and second solutions react.

8. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within b), applicants refer to reaction components, which suggests reactants; however, applicants then refer to the components being the specific formed polymers; polyurethane, polyester, epoxy, and polyurea. It is unclear how the reconcile the terminology. Furthermore, within d), applicants refer to "the polyol component, the isocyanate component, or both". This language lacks antecedent basis, and it fails to agree with the aforementioned polymer species.

9. Claims 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Firstly, it is unclear what is meant by “restriction free”. It is unclear what significance is possessed by the language.

Secondly, the language, “first reactive polymeric material” and “second reactive polymeric material”, is unclear. Are applicants referring to reactants that will yield a polymer? If not, then it is unclear how they are reactive.

10. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not clear that applicants have provided enablement for a “restriction free check valve. Check valves, by their nature, possess a degree of restriction.

11. Claims 18-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have failed to provide a basis for the claimed weight percents. Furthermore, it is unclear if the polyurethane resin layer is to be a non-foamed layer. This concept is not clear within the claims. Polyurethane resin in no way excludes polyurethane foam.

Furthermore, within claim 22, it is unclear if a fourth and fifth layer are being specifically set forth. The arrangement of the layers is unclear. It is again noted that polyurethane resin does not preclude polyurethane foam.

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12. Claims 21, 33, 38, and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if the multiple references to 100 mils are to refer to layer thicknesses. This is not clear from the claim terminology.

13. Claims 23-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within claims 23 and 25, it is unclear if the polymeric resin layer is to actually coat the polymeric foam layer, rather than the top side or bottom side.

Within claim 29, the basis for the weight percent is unclear. Does the polymeric resin weight include or exclude the fiber weight?

14. Claims 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have failed to specify a basis for the claimed weight percent range.

15. Claims 45 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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It is unclear from the language how the object is to be incorporated within the process of claim 41.

16. Claims 37-46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants have failed to adequately describe the term, "porous geotextile fabric". It is unclear what constitutes a porous geotextile fabric.

17. Claims 15-17 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants have failed to adequately teach one how to make a restriction free check valve without springs, as recited within claim 15. Applicants' specification fails to disclose how to make a valve that will function as a check valve, yet be restriction free. Check valves, by their nature, have a degree of restriction or resistance to flow; however, applicants have not indicated what structure is necessary to arrive at the specified check valve.

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.



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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 1-3, 5, 8, 10-12, 14, 34, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Kotschwar ('575).

Patentee discloses two-component sprayable polyurethane compositions, wherein a fiber reinforcing material is added to the polyol component, before the polyol component is mixed with the polyisocyanate component and ejected through a spray nozzle. Patentee additionally discloses quantities of fiber material and heating of the components, which meet applicants' claims. See abstract; column 2, lines 25+; column 7, lines 30+; column 8; and column 9, lines 61+.

Furthermore, patentee discloses at column 9, lines 19-27 that structural fiber reinforced products

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may be produced by adding water to the composition so as to produce a foam, and further that the foam may be sandwiched between two layers of the fiber-reinforced material.

20. Claims 4, 6, 7, 9, 13, 18-33, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kotschwar ('575), further in view of Cotts et al. ('569).

As aforementioned, Kotschwar disclose sprayable polyurethane fiber reinforced compositions and their use in the production of reinforced structural laminates; however, patentee fails to teach such features as the reduced quantity of fiber within claim 7, for example, the prewetting of the fibers, the use of a 1:1 volumetric ratio, the mixing of the fibers into both the polyol and the polyisocyanate sides, and the coating of an existing reinforcement structure with a foamed reinforced composition, and the subsequent coating with a non-foamed fiber reinforced composition. Still, the position is taken that each of the aforementioned features constitutes an obvious modification of Kotschwar, well within the capabilities of the skilled artisan. Specifically, it would have been obvious to operate at any quantity of fiber reinforcement that does not exceed the disclosed maximum amount, as one would have expected virtually any level of fiber within the composition to yield positive and desirable properties. The prewetting of the fibers would have been obvious, as one would have expected the wetted fibers to be more compatible with the components. Additionally, it would have been obvious to operate at a 1:1 volumetric ratio, because such a ratio would have simplified the delivery and metering of the components through the system. Also, the position is taken that it would have been obvious to incorporate the fibers into either or both sides of the composition, depending on preference; though less preferred, the

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reference does disclose that additives may be incorporated into either side. Lastly, the disclosure at column 9, lines 19-27 is considered to render applicants' coating of an existing structure with both a reinforced foam and a reinforced non-foamed material obvious.

21. Though Kotschwar discloses several suitable fiber materials, patentee is silent regarding the use of KEVLAR; however, the use of KEVLAR within polyurethanes to increase physical properties was known at the time of invention. This position is supported by the teachings of Cotts et al. As a result, the position is further taken that it would have been obvious to utilize KEVLAR as the fiber reinforcing material within Kotschwar, so as to arrive at the instant invention.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (703) 308-2982.

  
RABON SERGENT  
PRIMARY EXAMINER

R. Sergent

June 7, 2002